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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BAREFORD, KATHERINE A	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/618,557	MURANAKA, YUTAKA	
	Examiner	Art Unit	
	Katherine A. Bareford	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 9-13 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-8, drawn to a method, classified in class 427, subclass 402.

II. Claims 9-13, drawn to a method, classified in class 427, subclass 402.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation, as Invention I requires a stopping of the coating followed by a flowing of a specific solution not required by Invention II, and Invention II requires a coating with a bead gap range not required by Invention I.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Mr. D. Lucas on February 3, 2005 a provisional election was made with traverse to prosecute the invention of Group II, claims 9-13. Mr. Lucas

left a voice mail message making the election. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-8 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 9-13 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the use of coating liquids containing a volatile solvent with a viscosity of 300 mPa·s or more, does not reasonably provide enablement for use a coating liquid containing a volatile solvent with a viscosity of 200 – 300 mPa·s. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

Claim 9 claims that "at least one of the plural liquids contains a volatile solvent and has a viscosity of 200 mPa·s or more". However, all teachings in the specification require the viscosity to be at least 300 mPa·s for such a flow. See pages 9-13, 32 (Ex. 9), and 34-37 (Ex. 10-13). As a result one of ordinary skill in the art would not be able to determine whether the invention would work for the range of 200-300 mPa·s without performing undue experimentation.

The other dependent claims do not cure the defect of the claim from which they depend.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 9-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9, as worded there is no positive recitation as to how the coating occurs onto the moving support. Coating flows from slits of a slide coater, but there is no transfer to the support.

Claim 9, lines 7+, as worded it is unclear what is actually required by "bead gap" as the claim does not require the formation of a bead and does not indicate what is used to constitute the gap. For the purposes of examination, the Examiner has treated "bead gap" as being between the edge of the slide coater where coating flows and the support.

Claim 9, lines 8+, it is unclear what is required by "when a coating speed A is 5 to 50 (m/min) . . ." as worded. As worded, the bead gap only has to fit into the claimed B range when A is within the claimed speed, but the claim is not limited to such speeds. As a result, any bead gap is usable when a higher speed, for example, is used. It needs to be clarified what range of speeds is actually used.

Claim 10, lines 1-4, it is unclear what is actually required by this claim, as the optimum B value is determined, but as with claim 9 the speed does not have to be within the claimed range, and further, there is no requirement to actually coat using this B value.

Claim 11, it is unclear as to the use of the slide surface as claimed, as the coating is not operatively connected with the slide surface.

The other dependent claims do not cure the defects of the claims from which they depend.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koepke et al (US 4572849) in view of the admitted state of the prior art.

Koepke teaches a slide bead coating method. Figure 1 and column 4, line 55 through column 6, line 20. Plural layers are coated simultaneously on a continuously moving support web by flowing out simultaneously plural coating liquids from plural slits on a slide coater. Figure 1 and column 4, line 55 through column 6, line 20. The coating liquids flow down a slide surface of the slide coater, flow off the edge and form a bead contacting the support, thus coating the support. Figure 1 and column 4, line 55 through column 6, line 20. At least one of the coating liquids can have a viscosity of greater than 200 mPa·s. See column 6, lines 30-65. A bead gap can be set, forming a gap between the edge of the slide surface and the support. Figure 1 and column 2, lines 40-45. The bead gap can be 100 to 400 microns. Figure 1 and column

2, lines 40-45. The coating speed can be up to 100 m/min, when one layer had a viscosity of 670 mPa·s and a bead gap of 175 microns, for example. Column 6, lines 30-50.

Koepke teaches all the features of these claims except the volatile solvents in the coating liquid.

However, the admitted state of the prior art, at pages 2-3 of the specification, teaches that it is well known that when slide bead coating, to use coating liquids containing volatile sovents when using high viscosity liquids.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Koepke to use volatile solvents in the coating liquid as suggested by the admitted state of the prior art in order to provide a desirable coating, because Koepke teaches slide bead coating with high viscosity liquids and the admitted state of the prior art teaches that when slide bead coating with high viscosity liquids, it is known to use volatile solvents in the liquids.

As to the range of the bead gap size and the use of the optimum bead gap, the Examiner notes that the bead gap size range of claim 10 is only required when the coating speed is in the range of 5 to 50 m/min and Koepke teaches that the speed can be 100 m/min, for example, and the optimum gap of claim 11 is never actually required to be used. Moreover, even if the bead gap size range and optimum bead gap were required, Koepke teaches that 100 m/min in Example 2 (column 6, lines 35-50) was the maximum speed obtainable with the provided conditions, and one of ordinary skill in the art would perform routine experimentation to optimize the speed for the conditions given to get the best possible coating, as shown by the numerous examples of

Koepke. At a speed of between 5 and 20 m/min, a 175 micron bead gap would be within the claimed range.

11. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koepke in view of the admitted state of the prior art as applied to claims 9-10 above, and further in view of Hamamoto et al (US 2003/0180465).

Koepke in view of the admitted state of the prior art teaches all the features of these claims except the width gap regulating plate system as claimed.

However, Hamamoto teaches a method of slide bead coating. Figure 1 and paragraph [0002]. The slide coater comprises a slide surface and width regulating plates provided on both sides of the slide surface. Figure 2 and paragraph [0070]. The slide surface is located in close proximity to a coated surface of the continuously moving support. Figures 1 and 5. A slide angle $\theta\alpha$ is formed to the coated surface. Figure 1 and paragraphs [0156] and [0161] for example (the present $\theta\alpha$ corresponds to an angle of 90- "α" as described by Hamamoto). A tip end of each of the width regulating plates is slanted with a tip end angle θt to the slide surface. Figure 1 and paragraphs [0156] and [0161] for example (the present θt corresponds to D2 as described by Hamamoto). An inner side surface of each of the width regulating plates is slanted with an inner side angle θi to the slide surface. Figure 1 and paragraphs [0156] and [0161] for example (the present θi corresponds to D1 as described by Hamamoto). $(\theta\alpha - 40) \leq \theta t \leq (\theta\alpha - 5)$ can be satisfied. . Figure 1 and paragraphs [0156] and [0161] for example (see E3 of Hamamoto, for example). $\theta t \leq \theta i \leq 90$ can be satisfied. . Figure 1 and paragraphs [0156] and [0161] for

example (see E3 of Hamamoto, for example). The edge of the tip end of the width regulating plates and the edge of the slide surface are positioned on the same straight line. See figures 2, 16 and 17, for example.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Koepke in view of the admitted state of the prior art to use a width regulating system as suggested by Hamamoto in order to provide a desirable coating, because Koepke the admitted state of the prior art teaches slide bead coating and Hamamoto teaches a desirable width regulating system for slide bead coating.

12. Applicant cannot rely upon the foreign priority papers to overcome this rejection of claims 11-12 because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

10/20 13. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koepke in view of the admitted state of the prior art as applied to claims 9-10 above, and further in view of Bassa (US 4545321).

Koepke in view of the admitted state of the prior art teaches all the features of these claims except two chamber reduced pressure chambers.

However, Bassa teaches a method of slide bead coating. Figure 1 and column 1, lines 5-35. Bassa teaches that it is well known when bead coating to provide a low pressure chamber upstream of the coating application to stabilize the bead. Column 1, lines 10-35. Bassa teaches

that a desirable low pressure chamber system has plural reduced pressure/vacuum chambers. Column 2, lines 35-55.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Koepke in view of the admitted state of the prior art to use a two chamber low pressure system as suggested by Bassa in order to provide a desirable coating, because Koepke in view of the admitted state of the prior art teaches slide bead coating and Bassa teaches a low pressure chamber system for stabilizing the bead when slide bead coating.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:30-4:00) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (571) 272-1415. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and for After Final communications.

Other inquiries can be directed to the Tech Center 1700 telephone number at (571) 272-1700.

Furthermore, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KATHERINE BAREFORD
PRIMARY EXAMINER